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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,229	05/07/2001	Sung Rong Jo	P0239/US/SH	8060

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EXAMINER

BURCH, MELODY M

ART UNIT PAPER NUMBER

3683

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,229

Applicant(s)

JO, SUNG RONG

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-16 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-16 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The disclosure (particularly figures 8-13) fails to provide support for the at least one indented portion specifically having one of an oval and a circular shape. Since the drawings show a side profile of the indentation it is unclear whether the front of the indentation actually forms an oval or a circle.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 6, 9, 15, 19, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5988605 to Weisser et al.

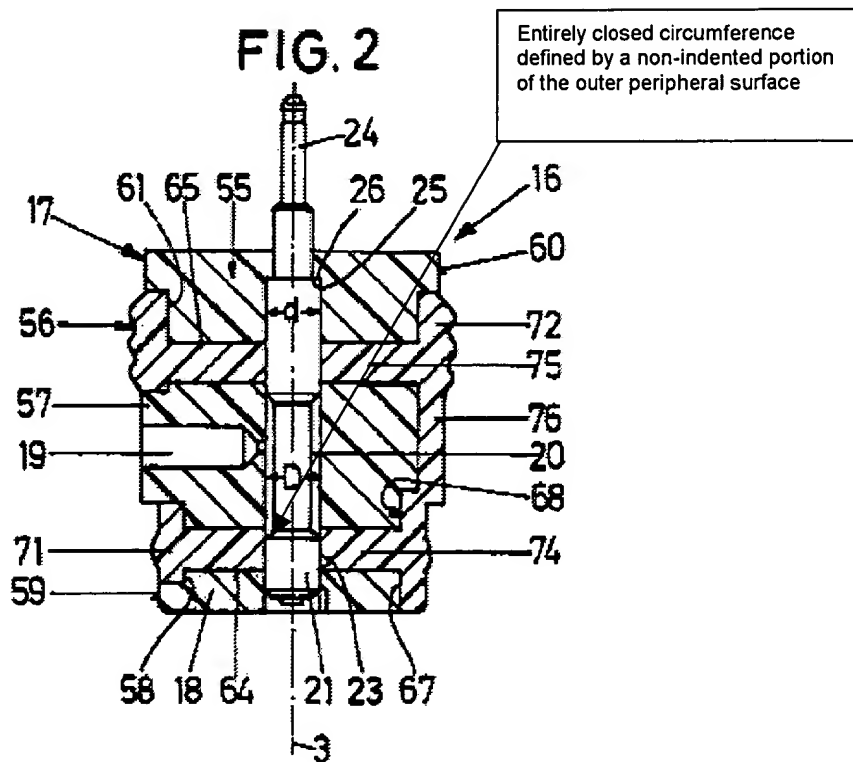
Re: claims 1, 2, 9, and 19. Weisser et al. show in figures 1 and 2 a gas

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opening/closing pin which opens and closes a gas inlet and outlet 19 formed in a pipe holder 16 which seals one end portion of a cylinder 4 and moves the position of a piston 6 in the cylinder, wherein at least one indented portion 20 which opens the gas inlet and outlet is formed on the outer peripheral surface of the central portion of the gas opening/closing pin and an integrally formed stepped diameter reducing portion shown in the area of d, 24, and 26 formed at an upper end of the opening/closing pin.

Re: claims 4, 6, 15. Weisser et al. show in figure 2 the limitation wherein the diameter reducing portion is tapered as shown in the area above the lead line associated with element number 24.

Re: claims 20 and 21. Weisser et al. show in the labeled copy of figure 2 on the following page the limitation wherein the at least one indented portion has an entirely closed circumference defined by a non-indented portion of the outer peripheral surface shown in the area of element number 21 and shows the limitation wherein the at least one indented portion is has one of an oval and a circular shape by virtue of its annular shape.



Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 8, 10, 11-14, 17, 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisser et al. in view of US Patent Re, 18,696 to Messier.

Re: claims 8, 10, 17, and 18. Weisser et al. show in figures 1 and 2 a gas opening/closing pin which opens and closes a gas inlet and outlet 19 formed in a pipe holder 16 which seals one end portion of a cylinder 4 and moves the position of a piston

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6 in the cylinder, wherein at least one recessed portion 20 which opens the gas inlet and outlet is formed on a side of the outer peripheral surface of the central portion of the gas opening/closing pin and one of a washer-shaped boss body portion shown below element 21 is formed at a lower end of the opening/closing pin, but does not disclose the limitation of the at least one recessed portion being streamlined or the limitation of the washer shaped boss body portion being integrally formed.

Messier teaches in figure 4 the use of a pin having at least one streamlined-shaped recess shown in the area of the line associated with element number 18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one recess of Weisser et al. to have included a streamlined-shaped, as taught by Messier, in order to provide improved fluid flow over the outer surfaces of the at least one recess.

In *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) the court held that the use of a one piece construction instead of several parts rigidly secured together would be merely a matter of obvious engineering choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the connection of the washer-shaped boss body portion of Weisser et al. to have been integrally formed with portion 21 of the pin in order to provide an alternate means of connection depending on manufacturing and cost requirements.

Re: claim 3. Weisser et al. show the limitation of the diameter reducing portion having at least one step shown in the area of the lead lines of element numbers 25 and 26.

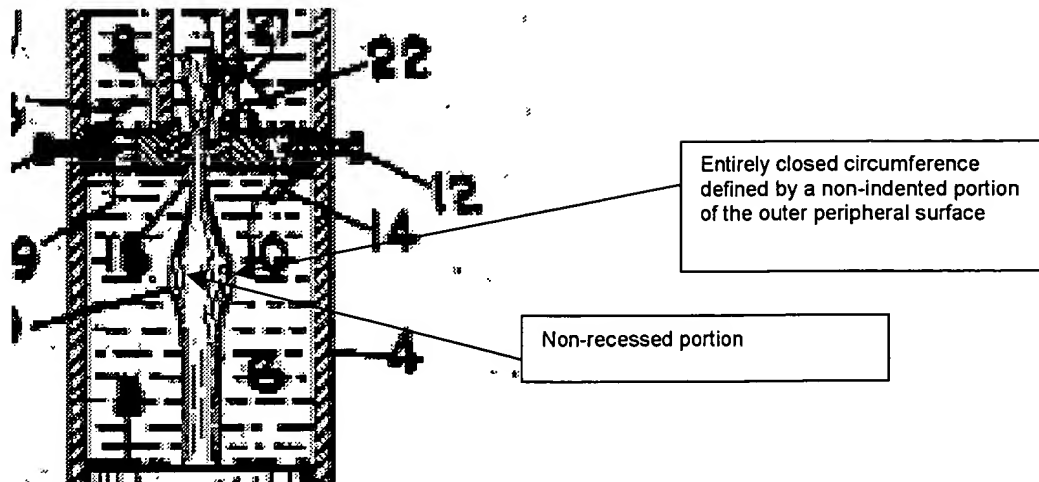
Re: claim 11. Weisser et al. teach the claimed invention. See figure 4 of Messier. Examiner maintains that Messier shows a plurality of streamlined recesses in the area of the lead line of element number 18 to the same extent as Applicant's figure 10 except the Messier reference shows additional overlapping recesses in the areas corresponding to the areas between Applicant's elements 140a.

Re: claim 12. Weisser et al. show in figure 2 an integrally formed diameter reducing portion shown in the area of 25,26,24 formed at an upper end of the opening/closing pin wherein the lower end portion of the diameter reducing portion of the gas opening/closing pin is caught by an annular jaw corresponding to the diameter reducing portion of the gas opening/closing pin shown in the area of the lead lines of numbers 25 and 26 and installed in the pipe holder.

Re: claims 13 and 14. Weisser et al. show in figure 2 the limitation wherein the diameter reducing portion is tapered as shown in the area above the lead line associated with element number 24.

Re: claims 22 and 23. Weisser et al., as modified, teach in figure 4 of Messier the limitation wherein the at least one streamlined recessed portion has an entirely closed circumference defined by a non-recessed portion of the outer peripheral surface as labeled in the copy of a portion of figure 4 of Messier in the following page and wherein the at least one streamlined recessed portion has one of an oval and a circular shape by virtue of its annular shape.

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7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weisser et al. in view of US Patent 3659573 to Bennett. Bennett teaches in col. 1 lines 17-18 the use of a metering pin made of metal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the metering pin of Weisser et al. to have included a pin being made of metal, as taught by Bennett, in order to provide a means of helping to prevent wear or nicks depending on the structural integrity of the metal material and also depending on cost and manufacturing considerations.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weisser et al. in view of US Patent 4934749 to Folarin. Folarin teaches in col. 3 lines 30-33 the use of a metering pin being made of a non-metal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pin of Weisser et al. to have included a pin made of a non-metal, as taught by Folarin, in order to provide a material more suitable to a molding process for forming an integral pin piece depending on cost and manufacturing requirements.

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9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weisser et al. Weisser et al. describe the invention substantially as set forth above including a washer shaped boss body portion being connected at a lower end of the pin, but do not include the limitation of the washer shaped boss body portion being integrally formed at the lower end of the pin. In *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) the court held that the use of a one piece construction instead of several parts rigidly secured together would be merely a matter of obvious engineering choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the connection of the washer-shaped boss body portion of Weisser et al. to have been integrally formed with portion 21 of the pin in order to provide an alternate means of connection depending on manufacturing and cost requirements.

Response to Arguments

10. Arguments filed 7/30/03 have been considered but are not persuasive. Examiner maintains that the at least one indented portion or recess of Weisser et al. and Messier is/are formed on a side of the outer peripheral surface of the pin as claimed as shown in figures 2 and 4, respectively. Applicant argues that the indented portion does not extend about the entire circumference of the pin, however, it is noted that the argument is more specific than the claim language. Also, Examiner notes that as, broadly recited, the claim language does not preclude the at least one indented or recessed portion from extending over a plurality of sides of the outer peripheral surface as the claims utilize the open-ended transitional term "comprising".

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 8/29/03
mmb
August 29, 2003

M. C. Graham
9/4/2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310